

TOMATO PASTE

PURÉE, JUICE & POWDER

BY

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&

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CONTENTS

Foreword by Dr. C. L. Cutting, Director of Research,
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vii

Authors' Preface

ix

Chapter

pages

- I Tomato Paste Definition, Characteristics and Quality 1-7
Superior (or choice) quality; Standard (or second) quality;
C.I.P.C. standard; Quality grades

- II Varieties of Tomatoes for Paste Production 8-17
Desirable characteristics; Yields and composition of varieties
as evaluated in field trials; Methods of cultivation in Italy

- III Methods of Manufacture 18-33
Receipt of tomatoes at the factory; Washing; Sorting and
trimming; Summary of defects; Crushing and preparation
of tomato pulp; Concentration; Filling into cans and
sealing; Cooling; Packing; Dispatch; Other methods of
packing

- IV Equipment Used in the Production of Tomato Paste 34-52
Flumes; Tomato washing unit; Tomato sorting tables;
Crushers; Pre-heaters; Juice extraction and refining;
Evaporators; Heat exchangers; Re-heater sterilizers and
fillers; Coolers for filled cans

- V Cleaning of Tomato Paste Plant and Equipment 53-60
Tomato flumes; Receiving tanks; Washers; Elevators;
Sorting tables and conveyors; Crusher box; Pulp pre-
heater; Cyclones; Seed-removing cyclones; Receiving tank;
Concentration plant; Filling machines; Seaming machines;
Can run-ways

- VI The Quality Evaluation of Tomato Paste 61-109
Determination of total solids (dry residue) in tomato paste
or pulp; Relation between Refractive Index, total solids

ALLIED TOMATO PRODUCTS

TOMATO JUICE

TOMATO JUICE, produced as a beverage lightly seasoned with salt, or as the basis of cocktail drinks, is so closely allied to the pulp intended for making tomato paste that a brief description of its manufacture may not be out of place in the present work.

Tomato juice is defined by the United States Food, Drug, and Cosmetic Act as "the unconcentrated liquid extracted from mature tomatoes of red or reddish varieties, with or without scalding followed by draining. In the extraction of such liquid, heat may be applied by any method which does not add water thereto. Such liquid is strained free from skins, seeds, and other coarse or hard substances, but carries finely divided insoluble solids from the flesh of the tomato. Such liquid may be homogenized and may be seasoned with salt. When sealed in a container it is to be processed by heat, before or after sealing, as to prevent spoilage."

Tomato juice for canning should be made only from sound ripe fruit, and all green and over-ripe tomatoes should be removed during sorting. Careful trimming is necessary, not only to meet the maximum mould count requirements, but also to produce a high quality juice. Stems must be completely removed as they may cause bitterness in flavour and a dullness in the colour.

Tomatoes used for juice production must be thoroughly washed, and the initial washing and sorting operations are very similar to those described under the respective headings in Chapters Three and Four in respect of tomato paste. Organic insecticide residues may be particularly troublesome if not completely removed by washing, as they can impart off-flavours which are readily evident in a delicately flavoured product.

Crushing or breaking of tomatoes for juice production, may be by hot or cold procedures and, as in the case of pulp for paste production, a high temperature at, or immediately after, crushing produces a higher yield, a more viscous product and one which does not separate on standing. Cold break is claimed to give a better coloured juice, particularly if the raw tomatoes are not fully ripe throughout

114

a consignment and contain some greenish or poorly coloured parts. Under these conditions a cold break may give a better flavoured juice. Vitamin C is also better retained by cold-break procedures because its destruction is accelerated by high temperatures when air is present.



Pulp Squasher and cold seed remover.

The removal of skins and seeds and other undesirable matter—cores, stalks, blighted material, black spots, etc.—and the refinement of the juice may be carried out in cyclones, as in tomato paste manufacture, but it is preferable to employ methods which press the juice from the crushed fruit rather than beat the pulp through a screen. A worm conveyor juice extractor works on this principle, and the pulp is gently forced through a screen by the movement of such a conveyor rather than by rotating blades.

A juice extractor therefore incorporates less air into the pulp than a conventional cyclone, and this aids retention of Vitamin C and reduces undesirable oxidative changes in the juice. Usually juice extraction and refinement take place in two or three stages, through screens of decreasing mesh size, and immediately after this process the juice should be de-aerated by subjecting it to a fairly high degree of vacuum in a suitable apparatus. After removal of air, the juice can be heated and held at high temperatures with no further significant loss of Vitamin C.

In theory, de-aeration should be applied as soon as possible after